

TAXONOMIC NOTES ON FISHES

BY GILBERT P. WHITLEY, F.R.Z.S.

(Contribution from The Australian Museum, Sydney.)

(Figures 1-8)

Family GALAXIIDAE.

GALAXIAS TRUTTACEUS HESPERIUS Whitley.

(Figure 1)

Galaxias truttaceus hesperius Whitley, Austr. Zool. x, 1944, p. 263 and W.A. Nat. i, 1947, p. 53.

Here figured from the holotype of the subspecies from Nannarup, Albany district, preserved in the W.A. Museum, Perth.



Figure 1.—Native Trout, *Galaxias truttaceus hesperius*, holotype of subspecies from Western Australia.

Family SYNGNATHIDAE.

HIPPOCAMPUS RAJI, sp. nov.

New name for *Hippocampus kuda multiannularis* Raj (Proc. Indian Sci. Congress xxvii, 3, 1945, p. 156), preoccupied by *H. guttulatus multiannularis* Ginsburg, Proc. U.S. Nat. Mus. lxxxiii, 1937, p. 540, from the Bay of Biscay.

Family POLYNEMIDAE.

Genus POLYDACTYLUS Lacepede, 1803.

POLYDACTYLUS SEALEI Jordan & Richardson.

Polydactylus opercularis Seale & Beane, Proc. U.S. Nat. Mus. xxxiii, Nov. 21, 1907, p. 234, fig. 4. Zamboanga, Philippines. Anticipated by *Trichidion opercularis* Gill, Proc. Acad. Nat. Sci. Philad. 1863, p. 168, another species of *Polydactylus*.

Polydactylus sealei Jordan & Richardson, List. Fish. Philip. Is. (Manila), Jan. 20, 1910, p. 16. New name for Seale & Bean's, not of Gill.

D. vili/i, 13-14; A. iii, 12; P. 14 plus 8. L. Lat. 45-48. Tr. 6/1/9 to 11. 26 to 27 gill-rakers on lower part of first gill-arch. Longest pectoral filaments reach origin of anal fin. Two specimens 7 to 8 ins. in total length. Austr. Mus. regd. Nos. IB.1462-3.

Loc.—Torokina, Bougainville Island, Solomons. Collected by Mr. Ellis Troughton in 1945.

New record for Oceania.

Easily recognised by the eight free pectoral rays. About eighty nominal species of Polynemidae have been described and in most cases these filaments number from 4 to 7, but some have 3 to 14. I have not seen descriptions of *Polynemus antillarum* Perugia, 1896, or *astrolabi* and *melanopus* Sauvage, 1881. The only species having eight free rays, besides *scaei*, appear to be *P. octonemus* Girard, 1858, from Texas, the tips of whose filaments extend beyond origin of anal fin, and *P. opercularis* (Gill, 1863) from western Central America, which has much more numerous scales.

Family TERAPONTIDAE.
MESOPRISTES JENKINSI Whitley.

(Figure 2)

Mesopristes jenkinsi Whitley, Austr. Zool. xi, 1945, p. 26 and W.A. Nat. i, 1947, p. 53.

The holotype in the Perth Museum, from the Ord River, Western Australia, is here illustrated.

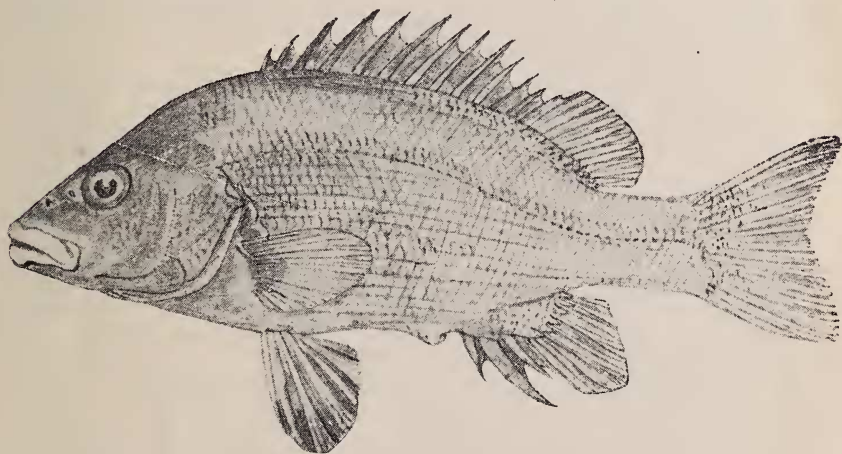


Figure 2.—Grunter, *Mesopristes jenkinsi*. Holotype from Western Australia.

G. P. Whitley, del.

Subfamily HELOTINAE.
PINGALLA, gen. nov.

Orthotype, *Pingalla gilberti*, sp. nov.

Similar to *Helotes* Cuvier & Valenciennes (Hist. Nat. Poiss. iii, April 1829, p. 149) but differing from the genotype, *H. Sexlineatus* (Quoy & Gaimard, 1825), in having much fewer scales in lateral line (about 44 to 55 instead of about 84 to 100), plain coloration (instead of striped) and deeper form.

Includes also *Helotes lorentzi* Weber (Notes Leyden Mus. xxxii, 1911, p. 236) = *Pingalla lorentzi* from southern New Guinea rivers.

PINGALLA GILBERTI, sp. nov.

Br. 6. D. xii, 12; A. iii, 7; P. left 17 (probably due to an old break in top spine), right 15; V. i, 5; C. 15 branched rays. L. Lat. 44. Sc. 41 to hypural plus 4 or 5 to middle of tail. Tr. 6/1/12 to 4/1/4 on caudal peduncle.

Head (19mm.) and depth (20) about 3 in standard length (59). Eye (5), interorbital (5) and maxillary (4) shorter than snout (7) or postorbital (8). Length of pectoral, 13mm.

Head rather rounded, profile obliquely sloping, convex before eyes. Rounded preopercular corner serrated, other opercles and preorbital entire. Lower opercular spine barely reaching opercular lobe. Top, bottom, and front of head before eyes naked, rest scaly. Cheek-scales in 7 or 8 rows below eyes and three rows just behind eye. Posterior nostril well separated from anterior. Some pores on preorbital and mucus canals each side of interorbital. Mouth very small, box-like, not protractile, below level of eyes. Lips normal. Lower jaw included. Premaxillary pedicels more than half eye-diameter. Angle of maxillary barely covered by lip and not nearly reaching eye. A practically single row of compressed, movable, blunt-tipped, cusplike brown incisors on jaws, about 30 in upper and a shorter row of 16 in lower, none notably enlarged. Vomer and palatines toothless. Gill-openings wide, membranes united across narrow isthmus. Gill-rakers short and stubby, 7 plus 11 on first branchial arch.

Body elongate-ovate, compressed, covered with sculptured ctenoid scales which also cover the supracleithrum, which has a few serrae. Lateral line complete, with simple tubes. Dorsals and anal with basal scaly sheaths. Dorsal spines heteracanth, fourth and fifth longest, longer than the rays; penultimate spine shorter than last one. Soft dorsal concave, anal convex. Second anal spine longest. Some of upper pectoral rays longest. Ventrals pointed, not reaching vent. Caudal excavately forked, with blunt lobes.

Colours in life, "Silvery, each scale outlined with dusky green; eye surrounded pale yellow; pectoral yellowish; ventrals pale yellow; dorsals pale olive, covered with minute black dots; anal yellowish anteriorly, hyaline posteriorly, with a blackish blotch on the first three membranes" (T. C. Marshall, field notes).

Described from a specimen 59mm. in standard length or 75mm. (nearly 3 inches) overall. Austr. Mus. regd. No. IB.3148.

Loc.—Forest Home Station, Gilbert River, Queensland; freshwater (Mr. T. C. Marshall, September 1953); Dept. Harbours & Marine, Brisbane, No. 2846.

Holotype and paratypes in Dept. of Harbours and Marine, Brisbane; paratype in Australian Museum, Sydney.

Differs from other terapontids in having brown incisor teeth, fewer than fifty scales in lateral line, and in fin-outlines. Nearest *lorentzi* Weber, 1911 (most recently figured in Weber & Beaufort, Fish. Indo-Austr. Archip. vi, 1931, p. 165, figs. 31 & 32b), but differs as follows:—

A. Posterior dorsal spines subequal. D. xiii-xiv, 13.

L. Lat. 52 *lorentzi*

AA. Last dorsal spine longer than penultimate. D. xii, 12.

L. Lat. 44 *gilberti*

Named after John Gilbert, naturalist on Leichhardt's expedition, who was killed by the aborigines near the river which now bears his name.

Family LUTJANIDAE.

Genus LUTJANUS Bloch, 1790.

LUTJANUS MACLEAYANUS (Ramsay).

Genyoroge macleayana Ramsay, Proc. Linn. Soc. N. S. Wales viii, June 19, 1883, p. 178. North Head, Sydney. *Id.* Waite, Mem. Nat. Club N. S. Wales 1904, p. 29. *Id.* Stead, Edib. Fish. N. S. Wales, 1908, p. 10.

This species was recently illustrated (Whitley, Austr. Mus. Mag. xi, 1954, p. 197 & fig.) for the first time from the unique holotype (No. A.14345) in the Australian Museum, 2½ feet long, from the North Head of Port Jackson, New South Wales. It is rather like *L. coatesi* Whitley (Mem. Qld. Mus. x, 1934, p. 176, pl. xxvi & text-fig. 1) but differs from that and other Australian species in having the following combination of characters.

D. xi, 13; A. iii, 8. L. lat. with about 47 to 50 tubes to hypural. Tr. 9/1/21 to 4½/1/7½ on caudal peduncle. Predorsal sc. 15.

Head (212mm.) 3 in length to hypural joint (634). Eye (34) 6.2, interorbital (49) 4.3 in head.

Preorbital fossa shallow, inconspicuous. End of maxillary emarginate. One enlarged tooth at each side of upper jaw anteriorly; no enlarged canines in lower jaw, which has very few small teeth behind the single row of sharp ones; dentition otherwise as in *coatesi*. Depth slightly more than head. Combined dorsal bases more than half standard length. Dorsal and anal lobes pointed. Longest dorsal ray (112mm.) much longer than longest (fifth) dorsal spine (78). Lower parts of membranes of both dorsals scaly. Pectorals not reaching level of anal origin; ventrals not reaching vent.

LUTJANUS ARGENTIMACULATUS (Bonnaterre).

Sciaena argentimaculata Bonnaterre, Tabl. Encycl. Meth., Ichth. 1788, p. 123. Ex Forskal, non-binom. Red Sea.

Mesoprion roseigaster Macleay, Proc. Linn. Soc. N. S. Wales v, 1881, p. 331. Rockingham Bay, Queensland (freshwater).

The type of Macleay's species was kindly lent to me by the Curator of the Macleay Museum, University of Sydney, for study. It appears to be *Lutjanus argentimaculatus* and as such was figured in Austr. Mus. Mag. xi, 1954, pp. 194 & 198, fig. It was a gutted specimen, nearly 18 inches long, and had the following features.

D. x, 14; A. iii, 8; P. 16; C. 14. L. lat. c. 46 to hypural. Tr. 6/1/17 to 4/1/6 on caudal peduncle. About 12 predorsal scales, not reaching above eye. Sc. c. 38 from head to hypural joint. Gill-rakers 6/11. Head, 136mm. No fossa at nostrils. Maxillary largely sheathed. Mandible with ascending ramus. Tongue rugose. Boomerang-shaped patch of vomerine teeth; no backward extensions. Minute denticulations on preopercle. Scale-rows subhorizontal or following contour of back; 67 basal radii.

Family CHANDIDAE.

Genus BLANDOWSKIELLA Iredale & Whitley, 1932.

BLANDOWSKIELLA AGASSIZI (Steindachner).

(Figures 3-4)

Ambassis agassizii Steindachner, Sitzb. Akad. Wiss. Wien lv, 1, 1867, p. 9. Fitzroy R., Queensland. *Id.* McCulloch & Whitley, Mem. Qld. Mus. viii, 1925, p. 147. *Id.* Carter, The Aquarium (Philad.) i, 9, 1933, p. 234. *Id.* Whitley, Rec. S. Austr. Mus. v, 1935, pp. 356 & 363. *Id.* Meinken, Blatt. Aquar. Terr. 1938, ii, p. 18, fig.

- ? *Ambassis agrammus* Gunther, Ann. Mag. Nat. Hist. (3) xx, July 1, 1867, p. 57. Cape York, Queensland. And of later authors, also as *Priopis*.
- Pseudoambassis elongatus* Castelnau, Proc. Linn. Soc. N. S. Wales iii, 1878, p. 44. Norman River, Queensland.
- ? *Ambassis mulleri* Klunzinger, Sitzb. Akad. Wiss. Wien lxxx, 1, 1879, p. 346, pl. i, fig. 3. Port Darwin. And of authors, also as *Konopickia*.
- Pseudambassis nigripinnis* De Vis, Proc. Linn. Soc. N. S. Wales ix, 1884, p. 393. Brisbane River, Queensland.
- Priopis olivaceus* Ogilby, Proc. Roy. Soc. Qld. xxiii, 1910, p. 11. Near Brisbane, Queensland.
- Priopis nigripinnis* Ogilby, Proc. Roy. Soc. Qld. xxiii, 1910, p. 12. Inland creeks of Moreton district, Queensland.
- ? *Ambassis interrupta* var. *reticulatus* Weber, Nova Guinea ix, 4, 1913, p. 547. Lorentz River and Merauke, New Guinea. The *Ambassis reticulatus* of later authors, figured by Weber & Beaufort, Fish. Indo-Austr. Archip. v, 1929, p. 414, fig. 98.
- Ambassis dalyensis* Rendahl, Medd. Zool. Mus. Kristiania, No. 5, 1922, p. 187. Daly River, Northern Territory.
- Ambassis reticulatus* Nichols, Amer. Mus. Novit. 1433, 1949, p. 2. Archer River, Queensland.
- Blandowskiella dalyensis* Whitley, Rec. Austr. Mus. xxiii, 1953, p. 124, fig. 1.

The synonymy given above seems justified from an examination of numerous specimens of these little freshwater percoids from various localities from north-western Australia, the Northern Territory, both sides of Cape York and down the eastern Queensland coast to the rivers of northern New South Wales. It is a popular aquarium fish both here and overseas, and seems to vary in the serrae on the head, tubes on lateral line, and profile over eyes.

The specimen figured here (Austr. Mus. regd. No. IB.3158) was caught by Mr. T. C. Marshall in freshwater, Walker's Creek, Norman River, Queensland, and is about 2 inches overall. It has the following characters:—

D. ix, 8; A. iii, 8; P. 13; C. 16 branched rays. Sc. 26. L. lat. obsolescent, one to three tubes along third scale-row represent the upper l. lat. and there are tubes on the 1st and 14th or 15th to 22nd scales along middle of sides. Tr. 5/1/7 = 13. Predorsal sc. 9. Head (14mm.) and depth (15) 2.7 in standard length (37.5). Eye, 4.3; interorbital, 3.6; maxillary, 5; and second dorsal spine, 9mm. Facies as figured. No teeth on tongue. Profile not excavated. Third anal spine longest; soft anal well sheathed, with concave margin. Fourth pectoral ray longest. Scales entire, not bilobed. Fin-tips dusky; pectorals and ventrals plain; dark median line along sides.

I also reproduce Meinken's figure of two Australian specimens domesticated in Germany in 1937, made from living fishes in which the ventrals are situated farther back than mine and the lateral line is complete, with 23 or 24 pierced scales. He found that by shining a light through the fish, the form of the swim-bladder could be seen and that it was rounder in the female and reached farther below than in the male, so his upper figure evidently shows a female and the lower a male.

Figure 3.—Chanda
Perch,
Blandowskiella
agassizi,
Domesticated in
Germany.
After Meinken.

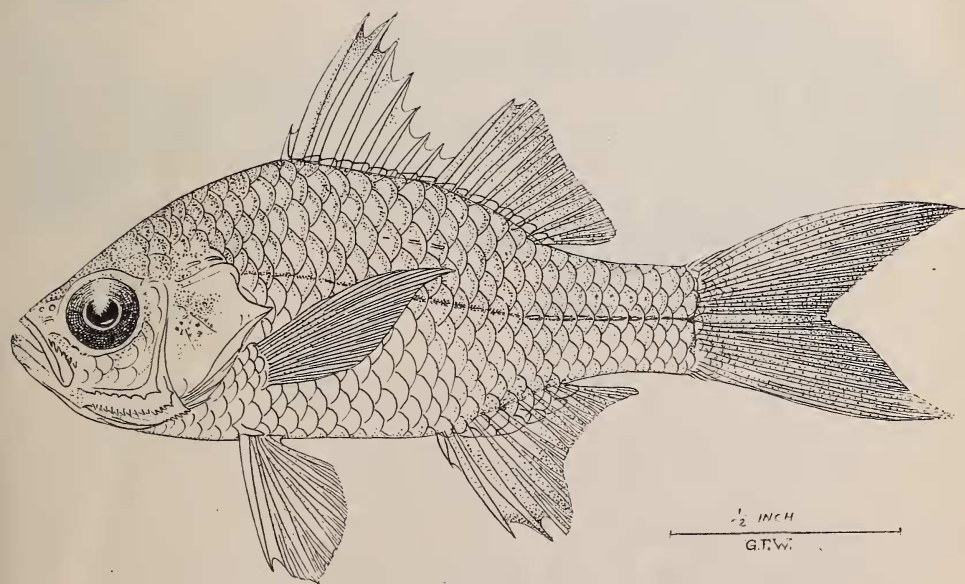


Figure 4.—Chanda Perch, *Blandowskiella agassizi*, from north
Queensland.

Family MULLIDAE.
 PENNON ARMATOIDES, sp. nov.
 (Figure 5)

D. viii/i, 8; A. i, 6; P. 14. L. lat. 31 to 34. Tr. 2/1/6.

Head (34mm.) 3.3, depth (30) 3.7 in standard length (113). Eye (8) 4.2, snout (12) 2.9, interorbital (10) 3.4, height of first dorsal fin (27) 1.2, pectoral length (24) 1.4 in head. Barbels not rigid. Narrow band of villiform teeth on jaws only. Eleven gill-rakers on lower part of first gill-arch. General characters as described and figured for *Pennon flifer* (Whitley, Austr. Zool. x, 1941, p. 33, fig. 22) but first dorsal fin shorter, ventral scales not carinate, and depth of caudal peduncle less than 2 in its length. The coloration also differs.

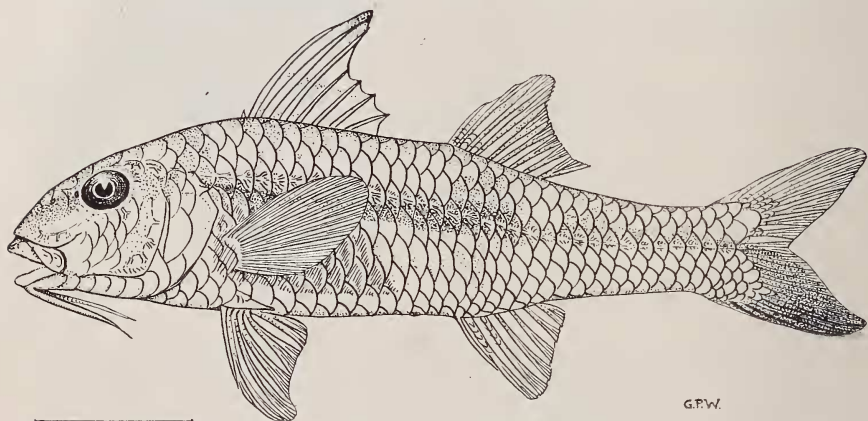


Figure 5.—Goatfish, *Pennon armatoides*. Holotype from Western Australia.

In the new species, specimens preserved in formalin are pale yellowish brown without any conspicuous markings on most of the pale yellow fins. Head yellow with dark brown area on snout. Eye blue. Five or six indistinct dark bars along back. A grey longitudinal band along the scale-row below the lateral line anteriorly and extending back towards root of tail. A dark grey area covers most of lower caudal lobe. On each side of thorax a rosy, beetroot or brick-orange patch.

Described mainly from the holotype (Austr. Mus. regd. No. IB.3006), a specimen $5\frac{1}{2}$ inches in total length. Several paratypes (IB.2980, 2989, and 3025) from the type-locality: Exmouth Gulf, Western Australia; coll. by Mr. K. Godfrey of C.S.I.R.O. Division of Fisheries aboard M.V. "Lancelin" in prawn trawl, August 1952. Another paratype (IB.3195, part) from Townsville, north Queensland.

Apparently nearest *Mulloides armatus* De Vis (Proc. Linn. Soc. N. S. Wales ix, 1884, p. 458) from Queensland but differs from his description as follows:

- A. L. lat. 40. Head $4\frac{1}{2}$, height $5\frac{1}{2}$ in total length. Scapula with a sharp point. Preorbital high, exceeding postorbital. Fins immaculate *armatus*
 AA. L. lat. 34 or less. Head nearly 5, height $4\frac{1}{2}$ in total length. Scapula without a sharp point. Preorbital less than postorbital. Lower caudal lobe dusky *armatoides*

PARUPENEUS LUTEUS (Cuv. & Val.).

Upeneus luteus Cuvier & Valenciennes, Hist. Nat. Poiss. vii, 1831, p. 521. Mauritius. *Id.* Guérin-Meneville, Icon. Regn. Anim. (Cuvier), Poiss. 1844, p. 10, pl. x, fig. 4.

Parupeneus luteus Weber & Beaufort, Fish. Indo-Austr. Archip. vi, 1931, p. 401 (q.v. for refs. and synonymy).

One, 10½ inches long, from Hayman Island, Queensland (Mr. F. A. McNeill, 1934). Austr. Mus. regd. No. IA.6008. Agrees with the original description except that the profile is not concave before eyes and barbels do not reach ventral base; it agrees well with Bleeker's figure in "Atlas Ichth." It is like *P. sufflavus* Whitley (Austr. Zool. x, 1941, p. 31, fig. 21) but has rounder, convex anterior profile, longer barbels and more scales (l. lat. 31, tr. 2½/1/7).

New record for Australia.

Family CHIRONEMIDAE.

Genus CHIRONEMUS Cuv. & Val., 1829.

CHIRONEMUS ABORIGINALIS Whitley.

(Figure 6)

Chironemus aboriginalis Whitley, Austr. Zool. vi, 1931, p. 321. New South Wales.

Here figured from a skin (No. I.3251) exhibited in the Australian Museum, from Dee Why, New South Wales.

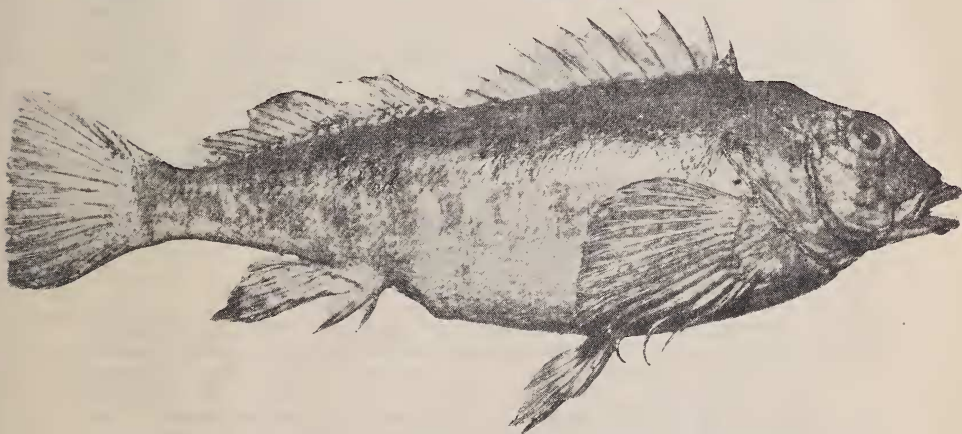


Figure 6.—Kelpfish, *Chironemus aboriginalis* from near Sydney.

—Photo H. Hughes.

Family SCOMBRIDAE, subfam. THINNIDAE, nov.

Genus THINNUS S.D.W., 1837.

Thynnus Cuvier, Regne Anim. ed. 1, 1816, p. 313. Tautotype, *Scomber thynnus* Linne. Preocc. by *Thynnus* Fabricius, 1775, in Insecta.

Thynnus S.D.W., Analyst v, 18, Jan. 1837, p. 208. Emendation for *Thynnus* Cuv. Type, by present designation, *Scomber thynnus* Linne, called *Thinnus vulgaris* Cuv. by S.D.W.

Thunnus South, Encycl. Metrop. xxv, 1845, p. 620. Substitute for *Thynnus* Cuv., preocc. Tautotype, *Scomber thynnus* Linne.

Albacora Jordan, Proc. Acad. Nat. Sci. Philad., 1888, p. 180. Orthotype, *Scomber thynnus* Linne.

Thinnus antedates *Thunnus* for the generic name of the tunny, and should be used in its stead. The Southern Bluefin Tuna of Australia was first called *Thynnus australis* by McCoy (Intercolon. Exhibit. Essays No. 7, 1866, p. 317) but his was a *nomen nudum*, moreover preoccupied by Boisdual, 1835, in Insecta. This fish should now be called *Thinnus maccoyii* (Castelnau, 1872).

In his "Classification of Fishes," 1923, Jordan separated the tunnies and albacores from the Scombridae as a family Thunnidae. I am inclined to regard them as a subfamily, which may be called Thinninae, nov. In insects, Salter (Proc. Linn. Soc. N. S. Wales 78, 1953 (Jan. 1954), p. 276) traced Thynnidae back to Swainson and Shuckard, 1840.

S.D.W., perhaps S. D. Wood of Derbyshire, wrote systematic lists of the fishes, birds and beasts of Britain in the "Analyst," copies of which I have perused in the Mathews collection, National Library, Canberra. He amended many scientific names by changing ph into f, y into i, etc. The paper which concerns ichthyologists is his "The Fishes (Pisces) of Britain, Systematically Arranged" in Analyst v, 18, Jan. 1837, pp. 204 to 215. Notable new names are: *Amfioxus*, *A. vulgaris*, *Ammodites vulgaris*, *Aspidoforus*, *Brama* [= *Abramis*—G.P.W.], *B. vulgaris*, *Carpio* [I select *vulgaris* as genotype—G.P.W.], *Centriscus vulgaris*, *Ciclopterus* & *C. Vulgaris*, *Conger vulgaris*, *Cori-faena*, *C. morio*, *Echeneis vulgaris*, *Exocoetus vulgaris*, *Ficis*, *F. vulgaris*, *Gimnetrus*, *Gunnellus maculatus*, *Leptocephalus*, *L. vulgaris*, *Lofus*, *L. vulgaris*, *Mullus vulgaris*, *Ofidium*, *Salmo vulgaris*, *Sciaena vulgaris*, *Scimnus* [for *Scymnus*, replaces *Scymnorhinus*—G.P.W.], *S. borealis*, *Singnathus*, *Thimallus*, *T. vulgaris*, *Thinnus*, *Trigla pinifolia*, *T. rubra*, *T. vulgaris*, *Zifas* and *Zigaena*. Practically all the names are nomina nuda or easily recognised synonyms of well-known British species but *Carpio* is earlier than Heckel's use of that name, *Ficis*. *Scimnus* and *Thinnus* replace preoccupied generic names, and *Scimnus borealis*, attributed to Scoresby, 1820, by Bigelow & Schroeder, is credited to Muller & Henle in Sherborn's Index Animalium.

Family ISTIOPHORIDAE.

Genus TETRAPTURUS Rafinesque, 1810.

TETRAPTURUS BREVIROSTRIS (Playfair).

Histiophorus brevirostris Playfair, Fish. Zanzibar, 1866, pp. 53 & 145, 2 figs. Zanzibar. Not that of Day, fish. India, 1876, p. 199, pl. xlvii, fig. 3, from Madras, which is *Tetrapturus tenuirostratus* Deraniyagala, Spolia Zeyl. xxxvi, 2, 1951, pp. 137 to 139, pl. i, fig. b and pl. ii, fig. b (synonym: *T. acutirostratus* Deraniyagala, Atlas Vertebr. Ceylon i, 1952, on coloured plate xxvii, not in text).

Tetrapturus brevirostris Goode, Rept. U.S. Fish. Comm. 1880 (1883), p. 308, pl. vii. *Id.* Jordan & Evermann, Occas. Pap. Calif. Acad. Sci. xii, 1926, pp. 30 & 33. *Id.* Deraniyagala, Ceylon Journ. Sci. (B) xviii, 1933, pp. 53 & 55, pl. iii, fig. 2. *Id.* La Monte & Marcy, Ichth. Contrib. Intern. Game Fish Assn. i, 2, 1941 & table (regarded as a marlin). *Id.* Smith, Sea Fish. S. Afr., ed. 2, 1950, p. 315, fig. 876. *Id.* Weber & Beaufort, Fish. Indo-Austr. Archip. ix, 1951, p. 237 (not all synonymy). *Id.* Whitley, Austr. Mus. Mag. (in press).

?*Tetrapturus indicus* (Cuv. & Val. ?) Deraniyagala, Spolia Zeyl. xxvi, 2, 1951, p. 139, pl. ii, fig. a. Mombasa—very short snout.

Br. 7. D. iv, 35/7? A. iii, 10/7; P. i, 19; V. 2 and C. 15 main rays. Sc. c. 130.

General facies as usual in marlins. Sword 4.9 in length to caudal fork and nearly 10 times diameter of eye. Depth 7.9 in total length.

Dimensions in inches:

Total length—65½.	Level of second dorsal and anal origins to end of middle caudal rays—11½.
Length to caudal fork—60½.	Upper caudal lobe—13.
Girth—20.	Lower caudal lobe—12½.
Snout to tail-base—58.	Caudal keels—1½.
Breadth of sword above lower jaw—0.7.	Minim. depth of caudal peduncle—1.8.
Tip of snout to ant. border of eye—12½.	Length of caudal peduncle—5½.
Tip of snout to tip of mandible—6½.	Height of 1st dorsal—7.
Tip of snout to maxillary border—14½.	Height of 2nd dorsal—1¾.
Body depth, below first dorsal—8½.	Last ray of 2nd dorsal—3.1.
Body depth, above first anal fin—6½.	Median dorsal spines—3.05.
Head—18½.	Height of 1st anal—4.8.
Eye—1½.	Origin of pectoral to that of anal—19½.
Interorbital—2.85.	Pectoral, length—8.
Postorbital—5.	Pectoral, base—1½.
Lower jaw—6½.	Width between origins of pectorals—3.7.
Maxillary fold—2.4.	The base of the second dorsal fin and the ventral fins are incomplete and cannot be measured.
Eye to preopercular margin—2.7.	
Spread of tail—21.6.	

Distance from tip of rostrum to tip of mandible nearly equal to that of tip of mandible from eye. Sword straight, slightly flattened above, rounded and granular below. Profile evenly elevated, not steep nor hunched at the shoulders. Very small teeth on jaws and finer ones on tongue; vomer and palatines not available for inspection. Free end of tongue convex. Maxillary reaching less than an eye-diameter behind eye. Scales on top of head, temples, cheeks, and sides of lower jaw. Nostrils simple, posterior the larger.

Form elongate, gentle tapering, compressed. No rugose area behind operculum. Interdorsal space about two eye-diameters, without upstanding spines. Anterior dorsal spines not enveloped in thick skin. A groove from ventral fins to about anus but no interdorsal or interanal grooves. Scales elongate lanceolate, slender, close-set or imbricate. Lateral line indistinct, simple, arched above pectoral fin thence straight along middle of flanks. Many pores on upper parts of body, near scale-tips. Caudal peduncle almost elliptical in cross-section, with two fleshy keels on each side.

First dorsal fin lower than body, its margin concave anteriorly and convex posteriorly, median spines fairly long, more than half the dorsal lobe, and not concealable in a sheath. Fifth to 14th dorsal spines branched and at least fourth to eighth anal. First anal lobe acute. Insertion and end of second dorsal fin in advance of levels of those of second anal. Pectorals falciform, adpressible, not reaching half way to level of anus but ending below 20th dorsal spine, its insertion low, level with lower jaw. Ventrals narrow, broken in this specimen, but each appears to have had two main rays and a couple of inner rudimentary rays.

Colour of the preserved skin dark brown for more than half of the upper part of the head, body and adjacent fins, also both caudal lobes. The lower parts of head and body and its fins are now yellowish, the junction of light and dark areas well defined, running from the lower caudal keel to the angle of the mouth and top of lower jaw. Apparently no bars on body or spots on fins; spinous dorsal uniform brown.

Described from a mounted specimen (Austr. Mus. regd. No. B.3521) from India. The internal characters, palate, gills, etc., accordingly cannot be described.

The Australian Museum recently received a second specimen of this species from the Arafura Sea, Northern Territory (new record); Capt. F. E. Wells, through the Commonwealth Fisheries Office (Regd. No. IB.3264). It is smaller than the Indian one described above, 5ft. 2in. overall. Sword (12 inches) 4.6 in L.C.F. (56) and 9 times eye. Distance from tip of snout to tip of mandible is greater than that from tip of mandible to eye. Free end of tongue notched. L. lat. distinct. Pectoral fin reaching below 22nd dorsal spine and halfway to level of anus.

Family GOBIIDAE.

ACENTROGOBIUS SCRUTARIUS, sp. nov.

D. vi/i, 8; A. i, 6; P. 5 plus 14. Sc. 34. Tr. 13. Pred. c. 14.

Head (9mm.) 3.1, depth (5) 5.6 in standard length (28). Eye (3) 3 in head, greater than snout and less than postorbital. Profile acute. Vertex scaly to above preoperculum, rest of head naked. Mucous papillae minute. Two mucous pores along narrow interorbital, others around eye and preoperculum and over opercles. Mouth reaching below anterior third of eye. Lips thick, not covered; upper jaw slightly the longer. Teeth in several rows, outer ones spaced and slightly enlarged. Tongue convex, not notched. Gill-openings little wider than depth of pectoral base. Isthmus broad. Anterior nostril separate from upper lip and with small flap.

Form anteriorly cylindrical, posteriorly compressed. Second or third dorsal spine longest. Pectoral fin (7mm.) shorter than head but equal to ventrals and caudal; five upper pectoral rays free, seventh branched ray from below (i.e. 12th ray) longest. Ventrals united, with frenum, fifth ray reaching base of anal papilla. Caudal rounded. Dorsal fin lower than body, pointed posteriorly. Scales papery, weakly ctenoid, deciduous or lacking on anterior part of breast and upper part of pectoral base.

Brown with darker marblings. Eyes bluish. Fins mostly light in tone, first dorsal with blackish blotch posteriorly, second dorsal and caudal brown-spotted. Anal with submarginal infuscated band. Total length 1.4in.

Described from the holotype (Austr. Mus. regd. No. IA.6092) from Gladstone, Queensland.

Distinguished from other Australian gobies mainly by the few anal rays, the free upper pectoral rays, and scale-counts.

Latin *scrutarius*, trashy.

NESOGOBIUS PULCHELLUS (Castelnau).

One from Rockingham; D. L. Serventy, 1937.

New record for Western Australia.

Family GOBIOMORIDAE.

Genus PHILYPNODON Bleeker, 1874.

PHILYPNODON GRANDICEPS (Krefft).

(Figure 7)

Eleotris grandiceps Krefft, Proc. Zool. Soc. Lond. 1864, p. 183. Upper Hawkesbury River, N. S. Wales.

Eleotris (*Eleotroides*) *melbournensis* Sauvage, Bull. Soc. Philomat. Paris (7) iv, 1880, p. 57. Melbourne, Victoria.

Through the courtesy of Professor L. Bertin and the skill of Mademoiselle Mauger of the Museum Nationale d'Histoire Naturelle Paris, I am able to reproduce the latter's drawing of the type of *Eleotris melbournensis* in the Paris Museum. Professor Bertin states (*in lit.*, 6 May, 1954) that it is numbered A.1887 and that it conforms with Sauvage's description except for a misprint: L. lat. 55 should have read 35. In McCulloch & Ogilby's key (Rec. Austr. Mus. xii, 1919, pp. 257-258) the species enters the genus *Philypnodon*.

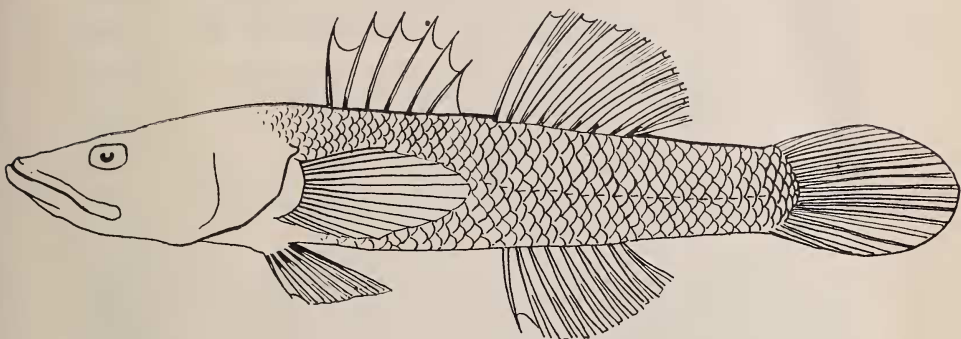


Figure 7.—Gudgeon, *Philypnodon grandiceps*: from the type of *Eleotris melbournensis* in the Paris Museum.

Mdlle. Mauger del.

From Mdlle. Mauger's drawing of this old specimen, and now that we are no longer misled by the typographical error in Sauvage's description, it is now plain that *Eleotris melbournensis* must be added to the synonymy of the Big-headed Gudgeon, *Philypnodon grandiceps*, the Melbourne form of which had earlier been named *nudiceps* by Castelnau, 1872. Other synonyms are: *Eleotris gymnocephalus* Steindachner, 1866 and *Ophiorrhinus angustifrons* Ogilby, 1898. The Big-headed Gudgeon is now known from rivers of southern Queensland, New South Wales, Victoria, and South Australia.

Genus CULIUS Bleeker, 1856.

CULIUS MELANOSOMA (Bleeker).

Eleotris melanosoma Bleeker, Nat. Tijdschr. Ned. Ind. iii, 1852, p. 705. Waihai, Sumatra. *Id.* Montilla, Philip. Journ. Sci. xiv, 1931, p. 62, pl. iii, fig. 1 (ipon fishery). *Id.* Koumans, Fish Indo-Austr. Archip. x, 1953, p. 297 (refs. & synon.).

Culius melanosoma Whitley, Austr. Mus. Mag. xi, 5, 1954, p. 151, fig.

In 1937, the Rev. Father J. B. Poncelet collected 24 specimens of this species, 65 to 190mm. in total length, inland from Buin, Bougainville Island, Solomons (Austr. Mus. regd. Nos. IA.6329, 6330, 6333, 6338, 6342, 6344, 6350 to 6352, 7309 to 7311, 7313, 7317, 7319, 7320 and IB.382 to 388). In 1954, I figured a female, 148mm. long (No. IA.7309). The natives called these fishes Tugu and Bibau, Pogubu, Lubau, or Tuntunika. The series shows little variation:

D. vi/i, 8; A. i, 8; P. 18 to 20; Sc. 50 to 58; Tr. 15 to 17; Tr. on caudal peduncle 13 to 16; predorsal sc. 36 to 41. Tongue truncate or broadly rounded, no preopercular spine; rows of small papillae around chin and preoperculum and passing from over eyes to over nostrils.

Dark brownish in spirits, often with rows of dark scale-centres, orange on belly, fins chequered, sometimes infuscated; caudal variegated cream and brown, thereby distinguished from the plain dull or dark caudal of the related *Cultus fuscus* (Bloch & Schneider) which has smaller scales and longer pectoral fins.

Family SOLEIDAE.

PARDACHIRUS PAVONINUS (Lacepede).

Achirus pavoninus Lacepede, Hist. Nat. Poiss. iv, 1802, pp. 658 and 660.

No locality = East Indies, *vide* Ogilby, Mem. Qld. Mus. v, 1916, p. 142.

One specimen from Point Cloates in the Western Australian Museum, Perth. New record for Western Australia.

Family SYNANCEJIDAE.

SYNANCEICHTHYS VERRUCOSUS (Bloch & Schneider).

Synanceja verrucosa Bloch & Schneider, Syst. Ichth. 1801, p. 195, pl. xlv. Habitat in India.

Aboriginal children caught a small stonefish of this species at Port Hedland when I was there on 24th September 1945, and last year another specimen was fished from Lancelin Island (Austr. Mus. regd. No. IB.3202). New record for Western Australia. Professor J. L. B. Smith (Trans. Roy. Soc. S. Africa xxviii, 1941, p. 451) suggests that this species and *Synanceja horrida* may be sexual dimorphs, a topic worth investigating, and he has given a personal account of the effects of the venom in Copeia, 1951, 3, p. 207.

Family SPHAEROIDIDAE.

Genus TORQUIGENER Whitley, 1930.

TORQUIGENER PIOSAE, sp. nov.

(Figure 8)

D. 7. A. 7. P. 14. C.8 branched rays.

Head (25mm.) 2.6, depth of body at vent (14) 4.6 in standard length (65). Eye (6) 4.1, snout (10) 2.5, interorbital (7) 3.5, height of dorsal fin subequal to length of pectoral (11) 2.2, and length of caudal (16) 1.5 in that of head.

General characters as described for *Spheroides squamicauda* by Ogilby (Proc. Roy. Soc. Qld. xxiii, 1910, p. 17, from southern Queens-

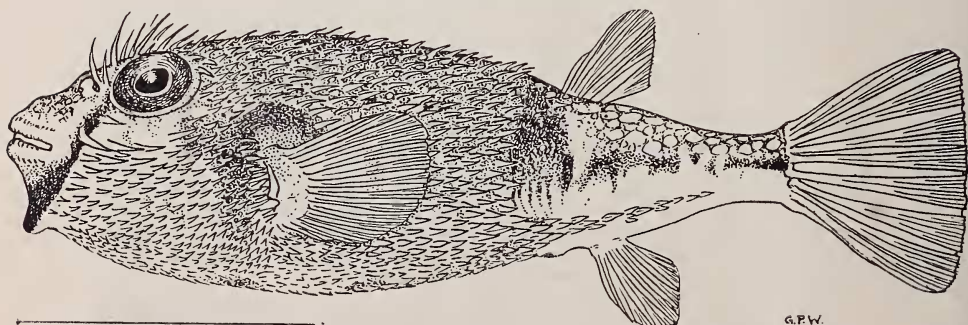


Figure 8.—Toado, *Torquigener piosae* Whitley. Holotype from Western Australia.

land), but differing in the head-proportions given above, in having the eye quite adnate and shorter than snout, body very prickly, without lateral naked embayment, and in coloration as described below. Each nostril a hood-like papilla, with anterior and posterior opening. Long erectile spines on interorbital. Operculum with cartilaginous spur. Anterior profile slightly excavated. Movable spines occur densely on most of the head and body, from level of nostrils to level of dorsal origin and from behind chin to near vent, concealing the lateral line system, which appears to be as figured for *Torquigener* by Fraser-Brunner (Ann. Mag. Nat. Hist. (11) x, 1943, p. 10, fig. D). A band of flattened spines extends backwards along ridge below each side of caudal peduncle for some distance. Caudal fin longer than its peduncle.

Life-colours.—Ground colour cream above, white below; back and sides with dense network of light brown, also two diffuse dark cross-bars, one before dorsal origin, the other at middle of back. A broken brown band or series of lateral blotches along each side and an oblique bar extending forward from below one eye to join its fellow across chin. This and the other median lateral blotches are broken up by orange or yolk-yellow patches. The yellow also forms a few irregular blotches on the white belly. Mouth dirty-white, fins pale yellowish. Eye blue with opalescence below pupil.

Described from the holotype in the Australian Museum (regd. No. IB.3217), where there is also a smaller paratype (IB.3218); other paratypes are in the Western Australian Museum, Perth. The holotype is 84mm. or 3.3 inches overall. A dissected paratype has five short gill-rakers on lower part of first branchial arch, airbladder globular, vertebrae 8 plus 12 = 20. The frontal bones separate the lateral ethmoids and the latter from the sphenotics and the skull-characters, etc. bring it down to *Torquigener* in Fraser-Brunner's key.

Loc.—Three to four miles west of Fremantle, Western Australia; otter-trawl from 4 fathoms, among brown algae and kelp; 25 August 1954. Collected by the author, who had been attending the Pan Indian Ocean Science Association's congress in Perth at that time, and from whose initial letters the new trivial name is derived. I am grateful to Mr. A. J. Fraser, Superintendent of Fisheries at Perth, and his Inspectors, J. Bramley, A. Melsom and J. Munro, and their associates, for several enjoyable trawling operations off Fremantle last August.